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Via ECFS

Marlene H. Dortch
Secretary
Federal Communications Commission
45 L St, NE
Washington, DC 20554

Re: Wireline Competition Bureau Seeks Comment On Emergency Broadband Connectivity Fund Assistance, WC Docket No. 20-445

Dear Secretary Dortch:

As a leading worldwide wireless technology innovator, Qualcomm is pleased to provide input on the above-referenced request for comment on the Emergency Broadband Connectivity Fund, specifically including the means of providing financial assistance from that fund and from the Emergency Broadband Benefit Program.[1] These funding vehicles will provide critical assistance and services to eligible households in the form of discounts on broadband service charges, including customer premises equipment ("CPE") supporting the provision of home broadband service, and on end user devices. The Fund also reimburses participating providers for such discounts.

During this COVID-19 emergency, it has become even more apparent that all Americans need broadband connectivity and a connected device for healthcare, education, accessing governmental services, and many other life-critical needs. Qualcomm applauds the enactment of this program and the Commission's quick action to implement it. In this brief comment, Qualcomm urges the FCC to adopt a definition of connected device broad enough to encompass the full range of user devices used for home broadband — including laptop computers, tablets, and smartphones[2] — as well as CPE used to enable home broadband connectivity, including broadband services supported by fixed wireless access ("FWA") systems.

Qualcomm is the industry leading provider of 5G chipsets that operate in all spectrum bands the FCC has made available for flexible use services, providing multimode solutions that operate in low-band, mid-band, and high-band millimeter wave spectrum and enabling the best

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[1] *See* FCC Public Notice, DA 21-6, *Wireline Competition Bureau Seeks Comment On Emergency Broadband Connectivity Fund Assistance*, WC Docket No. 20-445 (re. Jan. 4, 2021).

[2] Given that today's smartphones and tablets provide the same level of functionality and connectivity, the FCC should define tablets to include any handheld user device (e.g., smartphones) with a diagonal screen size of at least four inches.

possible broadband connectivity.[3] Our company's 5G mobile platforms offer a comprehensive modem-to-antenna system for 5G devices that provides ultra-high data speeds, superior coverage, and power efficiency in miniscule form factors. Qualcomm also provides compute platforms in the form of always-connected 5G, 4G LTE, and Wi-Fi 6-enabled laptops with long-lasting, multi-day battery life on a single charge.[4]

Furthermore, Qualcomm has developed the world's first fully integrated high-power millimeter wave antenna module for 5G-enabled extended range FWA, the QTM527 millimeter wave antenna module, that provides fiber-equivalent performance at extended ranges, enabling service providers and 5G network equipment makers to deliver multi-gigabit speeds and ultra-low latency to an increasingly broader footprint.[5] Dozens of equipment providers have chosen Qualcomm's Snapdragon X55 5G Modem-RF system for more than 80 FWA products. These FWA solutions can provide 5G connectivity over 5 kilometers with speeds greater than 100 Megabits per second to small towns, homes, businesses, schools, libraries, and recreation centers, serving presently underserved communities that are the target of the Emergency Broadband Connectivity Fund.

In fact, recent independent testing of 5G NR millimeter wave FWA services by the Signals Research Group demonstrated downlink data speeds of more than 1.8 Gbps at 1.7 kilometers and 180 Mbps at 5.1 kilometers.[6] The FWA CPE also delivered Gigabit speeds with near line-of-sight and non-line-of-sight radio conditions on a commercial network, even when the CPE was situated well off-angle from the serving cell site. Also, millimeter wave FWA solutions supported uplink data speeds greater than 100 Mbps, exceeding what many fixed broadband service plans presently provide.

Thus, Qualcomm strongly encourages the Commission to ensure FWA solutions are covered by this Fund. Specifically, the FCC should ensure participating providers receive reimbursement for supplying eligible households with not only a computer/laptop or tablet computer but also CPE, which is an integral part of the broadband Internet access service. FWA CPE receives broadband signals from a wireless service provider's fixed access node and enables

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[3] *See, e.g.*, Qualcomm 5G website *available at* https://www.qualcomm.com/products/5g (*last accessed* Jan. 25, 2021).

[4] *See, e.g.*, Qualcomm 5G Snapdragon 8cx Gen 2 5G Compute Platform website *available at* https://www.qualcomm.com/products/snapdragon-8cx-gen-2-5g-compute-platform (*last accessed* Jan. 25, 2021).

[5] *See, e.g.*, Gautam Sheoran, Qualcomm OnQ Blog - FWA breakthroughs show promise of 5G mmWave for extended ranges (Sept. 17, 2020) (*last accessed* Jan. 25, 2021).

[6] *See* Signals Research Group, All Things 5G NR mmWave – An Update on 5G NR Millimeter Wave Network Performance and New Use Cases (Jan. 26, 2021) *available at* https://signalsresearch.com/issue/all-things-5g-nr-mmwave/ (*last accessed* Jan. 25, 2021).

In Australia, nbn, Ericsson, Qualcomm, and Casa Systems achieved a 1 Gbps 5G millimeter wave communications data rate at a distance of 7.3 kilometers. *See* nbn Press Release, "nbn sets 5G Long-Range Transmission World Record" (Jan. 13, 2021) *available at* https://www.nbnco.com.au/corporate-information/media-centre/media-statements/nbn-sets-5g-long-range-transmission-world-record (*last accessed* Jan. 25, 2021).

connectivity to all user devices within the home. In this way, the Fund would allow all devices in an eligible household to have broadband access and not only the 5G-enabled computer or tablet device, providing many core benefits of broadband connectivity to multiple home users.

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In closing, Qualcomm appreciates the opportunity to provide these comments and encourages the FCC to quickly implement rules relating to the administration of the Emergency Broadband Connectivity Fund in accordance with these comments.

Respectfully submitted,

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